chemistry at a source power of from about 100 watts to about 450 watts and a bias power of from about 200 watts to about 500 watts, wherein the first etchant chemistry comprises a chlorine source free of BCl_3 and a fluorine source; and

(b) etching partially through the oxide layer using a second etchant chemistry, wherein the second etchant chemistry is free of fluorine and comprises a chlorine source.

31. A method of etching a semiconductor device using a capacitive coupling plasma reactor to form a pattern on the semiconductor device, comprising:

(a) providing a semiconductor device having a plurality of layers, at least one of the layers of the semiconductor device comprising a refractory metal-containing material; and

(b) etching the semiconductor device with an etchant composition at a bias power of from about 100 watts to about 750 watts, wherein the etchant composition comprises a first etchant chemistry comprising chlorine free of BCl_3 and a second etchant chemistry free of fluorine.

REMARKS

Applicant has amended the claims herein to further recite that the first etchant chemistry employed in the process recited does not include BCl_3 as a chlorine source. This is set forth in the specification, page 7, line 20 - page 8, line 2. As the amendment does not introduce new matter entry is respectfully requested. Upon entry, Claims 1-35 remain pending in the case.

REQUEST FOR RECONSIDERATION

Applicant's claims are directed to a method of etching a semiconductor device, to form an etched pattern, and specifically, Claim 15, to etching a refractory metal-containing layer and a oxide layer. To achieve uniformity of etching, selective chemistries are provided for the first and second etching. Moreover, to improve etch uniformity further, a change from the typical power distribution of source power verses bias power is appropriate. Conventional etching calls for a source power of about 500-600 watts, and bias power of about 70-150 watts. In contrast,